



Worcester State College

Sustainability Plan



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This Sustainability Plan has been reviewed and approved by Janelle C. Ashley, President of Worcester State College on October 25, 2005.

Signature of Agency Head or other Appropriate Designee

1. Agency Information, Impact Identification and Sustainability Team

1.1 Agency Description and Scope

Founded as a Normal School in 1874, Worcester State College is a public four-year, comprehensive liberal arts and sciences college with over 5,400 students, the majority of whom are commuters. There are more than 500 full-time employees. Worcester State College is located in a residential area on the west side of Worcester, the third largest city in New England. The College is three miles from downtown and 40 miles from Boston. The College's nine major buildings are located on 58 acres of wooded hills with 11 paved parking areas. Design of a new parking garage is expected to be completed in November of 2005 with construction scheduled to start in June of 2006. The campus is served by buses of the Worcester Regional Transit Authority and by the shuttle bus service of the Worcester Consortium.

There are three resident halls housing 981 students. The two major academic buildings are Sullivan Academic Center and Ghosh Science and Technology Center. There are three student service buildings: the Learning Resource Center, the Student Center and the Gymnasium. The Administration Building, built in 1932, is the oldest building on campus and is scheduled for renovation in 2007. The College also owns three additional properties adjacent to the college grounds which house the Latino Education Institute on Glendale Avenue, the Family Resource Center on Chicopee Street, and the Campus Ministry House on Candlewood Street.

The College has full-service dining and franchise eateries, an in-house health service center, a coffee shop, fitness center, shuttle van service, science laboratories, computer laboratories, art studios, television studios with a production facility, photographic

laboratories, student-operated radio station, full service printing shop, a mailroom and a central receiving area. Among our outdoor facilities are an artificial turf multipurpose athletic field and tennis courts.

As a state-supported institution, Worcester State College makes its facilities available to the public for conferences, meetings, events, and athletic competitions. With only a few exceptions, the College is open 24 hours a day and seven days a week all year long.

1.2 Agency Impacts on the Environment and Human Health

Worcester State College consumes approximately 37 million cubic feet of natural gas annually to provide a majority of the heat and hot water to the campus. A portion of this amount is used in the dining services area, several satellite laundry rooms and to power a gas fired chiller.

Additionally, one of the older boilers in the central Power Plant burns approximately 100,000 gallons of #4 fuel oil to assist with the heating load during the winter months. Another 4,000 gallons of diesel fuel is used to power 6 emergency generators.

The campus wide fuel usage results in 4.5 tons of NO_x emissions, 9 tons of SO_x emissions, .6 tons of Carbon Monoxide and 2,800 tons of CO₂ emissions annually.

The college uses approximately 9 million KWH of electricity annually. One of our buildings uses electricity for heat which accounts for about 12% of the electrical usage. The electricity usage generates approximately 3,700 tons of CO₂ emissions annually.

The College consumes approximately 2.5 million cubic feet of water or about 18 million gallons annually. It is used for heating and cooling systems, domestic supply, food preparation and irrigation.

About 200 tons of sand and salt were applied to campus parking lots and roadways during Winter 2004 - 2005. A Storm Water Management Plan in accordance with US EPA Phase II NPDES/MS4 regulations has been developed and implemented on campus.

Worcester State College generates in excess of 350 tons of solid waste annually. Waste containers, trash receptacles, dumpsters and compactors are strategically located on campus. Virtually all departments on campus contribute to this waste stream.

Efforts are made to recycle when possible. The College recycled approximately 48 tons of cardboard and mixed paper in FY05. From May through December of 2004, a total of 138 tons of classroom and dormitory furnishings were recycled through the Institution Recycling Network. From January 2003 through March of 2005, 14 tons of mixed electronic waste and 1.5 tons of universal waste were also recycled.

College vehicles are serviced by offsite contractors with the exception of lawn and grounds maintenance equipment which generates about 10 gallons of waste oil per year. The College has 5 GEM electric vehicles that are used by various service departments on campus.

Key Operations and Environmental Impacts		
<i>Operations</i>	<i>Activities</i>	<i>Environmental Impacts</i>
Building Maintenance	Electrical, HVAC, Plumbing, Carpentry, Painting, Custodial	Chemical usage, Produces Hazardous Waste, Universal Waste, Solid Waste, Ozone Depleting Substances, RTK, Safety Training
Roadways, Walkways, Parking lot maintenance	Surface Maintenance/Line painting, Snow Removal, Sand, Salt and Ice Melt Applications, Catch Basin Maintenance, Outdoor Lighting	Storm Water run-off, Solid Waste, Universal Waste, Electrical usage
Grounds Maintenance	Mowing, mulching, planting, fertilizing, pest control, irrigation	Chemical usage, Water usage, Solid Waste, Storm Water Run-off
Heating, Cooling and Emergency Power	Provide heat, hot water, cooling and back-up electricity for campus buildings, Maintain equipment	Chemical usage, Air Emissions, Water usage, Hazardous waste, Solid Waste, Electrical usage, Fuel usage
Residence Halls	Provide housing for 981 students	Air Emissions, Water Usage, Solid Waste, Universal Waste, Electrical usage, Fuel usage
Dining Services	Food Preparation and Catering	Air Emissions, Water usage, Electrical usage, Solid Waste, Hazardous Waste, Fuel Usage
Vehicle Maintenance	Operation and Maintenance of campus vehicles	Chemical usage, Air Emissions, Water usage, Electrical usage, Hazardous Waste, Fuel Usage
Printing & Publishing	Printing, copying and publishing of various forms, booklets, flyers, brochures,	Chemical usage, Hazardous Waste, Solid Waste

Administrative Offices	HR, Fiscal Affairs, Academic Affairs, Student Affairs, Campus Security	Solid waste, universal waste, paper recycling
Information Technology	Supports and maintains computers, campus network infrastructure	Universal and Electronic waste, Solid Waste
Academic Classrooms and Labs	Science Labs, Art Studios, Photographic Lab	Chemical Usage, Air Emissions, Hazardous Waste, Biohazard Waste, Universal Waste, Solid Waste
Construction and Renovation	Various construction and demolition activities	Air Emissions, Storm Water Run-off, Solid Waste

1.3 Agency Operational Costs

Worcester State College Operational Costs		
	FY04	FY05
Electricity	\$835,000.00	\$943,000
Water	\$53,000.00	\$64,000.00
Sewer	\$43,500.00	\$66,000.00
Natural Gas	\$113,500.00	\$392,195.00
Fuel Oil	\$79,000.00	\$110,000.00
Hazardous Waste	\$17,000.00	\$28,480.00
Universal and Mixed Electronic Waste	\$3,300.00	\$3,000.00
Solid Waste		\$86,000.00
Recycle & Surplus Equip. Disposal		\$12,000.00

1.4 Agency Sustainability Team Members

Bob Daniels, EH&S, Agency Coordinator
 Sandra Olson, Director of Facilities
 Julie Kazarian, Director of Residence Life
 Kaine Thompson, Director of Public Relation
 Gerald Sorge, Director of Academic Affairs
 Louise Storey, Director of Procurement
 Robin Quill, Associate VP, Fiscal Affairs

Sarah Forti, Student Services
Tim Hagopian, Professor, Math Department

Membership has been established at the director level to insure the commitment of resources necessary to allow the success of the plan. Members are encouraged to promote the involvement of their subordinates and should delegate projects and assignments when possible to promote sustainable practices within their own disciplines. Members are encouraged to send an alternate from within their department if they are unable to make any scheduled meeting. The team will meet quarterly or as otherwise necessary to review the progress and re-align the direction of focus based on information as it becomes available.

2. Long-Term Goals/Vision

Mission Statement

“Create physical facilities and a natural setting that reflect and support the mission, values and vision of Worcester State College, and to raise and maintain campus awareness of sustainable practices.”

Vision

Worcester State College has many established policies in place to preserve the environment, ensure environmental compliance and protect its community members. The College will continue to focus on developing more environmentally friendly practices in all aspects of its operations.

The vision includes expanding the existing policies and systems to include the entire campus community and to integrate these policy improvements into everyday practices. Future construction will be integrated with campus greening initiatives including LEED certification when possible. Worcester State College will strive to preserve open land on campus, implement measures that conserve natural resources and make efforts to expand those practices into all operations. Alternative and renewable energy sources will be explored as technology is refined. Environmental Compliance will be the by-product of our everyday operating practices.

3. Short-term Actions and Priorities.

3.1 Priority and Areas Goals

Solid Waste Disposal
Increase Recycling
Purchasing and EPP Products
EH&S – Lab Safety, Storm Water Run-off

3.2 Agency Action Steps

See Attached Appendix for a detailed description of action steps.

4. Management Systems and Institutionalization

4.1 Integrating Environmental Impacts into Key Decision Points

New Construction, Renovations and Relocation – All considerations for implementing sustainable practices/designs will occur during initial discussions with the Department of Capital Asset Management (DCAM), Massachusetts State College Building Authority (MSCBA) or internal project teams (WSC Facilities Department). LEED certification and design will be pursued to the maximum extent feasible with new construction and renovations.

Procurement/ Purchasing – Incorporate environmental language into all Bid Specs, RFQ's and proposals. Continue to buy green products and evaluate green substitutions when possible. Work with Agency Coordinator on developing, expanding and streamlining facility tracking and reporting systems.

Facilities Operations – will review practices and procedures on a regular basis and make recommendations or changes as necessary. Educate outside contractors and suppliers on our policies and expectations and work with Procurement to develop a supplier base that will help us meet our objectives.

4.2 Education and Training of Staff

Department meetings will include periodic updates of the sustainability implementation and tracking process. Results of the efforts will be communicated through existing communication tools such as emails, electronic bulletin board and websites. Employee training programs will be expanded to include a focus on the contents of this plan.

A newly developed EH&S website will have a section dedicated to Sustainability and will include a mechanism for soliciting ideas from the campus community as well as providing feedback on current efforts.

4.3 Management Systems

Worcester State College does not have a formal EMS in place at this time. The long term objective is to establish one. The scope of a recent compliance audit was expanded to include a review of existing management systems and conformance to ISO 14001 requirements. This gap analysis will serve as the foundation for further program implementation and development. A chemical hygiene plan, slated to be rolled out by year's end, will be structured to meet all the requirements of an EMS and will be a major building block of our system.

Our EMS is expected to integrate environmental responsibilities into job descriptions and expectations will be reviewed during performance evaluations and as previously mentioned in the Training Section 4.2.

An evaluation of Umass –Lowell’s Web based EMS software is scheduled during FY06.

5. Tracking Progress and Program/Plan Review

5.1 Agency Tracking and Reporting

The “Agency Sustainability Tracking, Reporting and Plan Update form” will be completed by the Agency Contact at WSC on an annual basis as prescribed by Executive Order #438.

Existing methods of data collection will be modified and improved to allow for the ease of reporting. New measurement systems will be devised as necessary to capture the data necessary to report on new and future projects.

5.2 Continuous Improvement

The College will review its plan annually. The “Workplan Worksheet” will be reviewed at each Sustainability Team meeting or no less than quarterly. Updates to the Plan or Worksheet will be made accordingly and changes will be reflected in the Annual Report.

The team will analyze the data contained in the annual report, measure its effectiveness toward target goals and recommend future action. Performance results will be posted on the EH&S website. New ideas and inputs will be solicited from employees, faculty and campus outreach groups.

Sustainable Goal	Benefits	Specific Tasks	Responsible Staff	Timeline
<ul style="list-style-type: none"> Increase mixed paper recycling by 20% expand recycling to include metal and glass from Food Services 	<ul style="list-style-type: none"> Solid waste reduction Cost savings 	<ul style="list-style-type: none"> Modify bid spec to reflect desired services and responsibilities of supplier. Identify State Contract Suppliers that are the most cost effective and flexible (or use public bid process if necessary) Award Contract and audit waste streams. Implement recommendations for ease of program facilitation. Communicate and begin improved recycling program 	<ul style="list-style-type: none"> Nicole Leblanc, Procurement Bob Daniels, EHS Louise Storey, Nicole Leblanc, Procurement Same Rich Korzec, Facilities, Bob Daniels, EHS Entire Campus Community 	<ul style="list-style-type: none"> November 2005 December 05 through January 2006 February 2006 March 2006 April 2006
<ul style="list-style-type: none"> Decrease Solid Waste Disposal 	<ul style="list-style-type: none"> Improve recycling quantities 	<ul style="list-style-type: none"> Continue and expand relationship with Institution Recycling Network to include integration of a system with OSD – Surplus Property Program 	<ul style="list-style-type: none"> Alan Jackson, Facilities, Bob Daniels, EHS 	<ul style="list-style-type: none"> 6 to 9 months
<ul style="list-style-type: none"> Find a more environmentally friendly ice-melt 	<ul style="list-style-type: none"> Natural Resource protection 	<ul style="list-style-type: none"> Solicit information and pricing from existing and new suppliers Obtain samples and performance guarantees. Evaluate products 	<ul style="list-style-type: none"> Storm Water Management Team 	<ul style="list-style-type: none"> Winter 2005 / 2006
<ul style="list-style-type: none"> Develop and implement a Storm Water Management Plan 	<ul style="list-style-type: none"> Compliance Natural Resource protection 	<ul style="list-style-type: none"> Select team members Identify objectives and draft plan Implement plan and train personnel 	<ul style="list-style-type: none"> Bob Daniels, EHS Alan Saball, Kevin Kristolaitis, Facilities Operation Outside Consultant as needed 	<ul style="list-style-type: none"> May 2005 – complete Draft completed October 2005 Implement and train November 2005 Monitor progress, continuous improvement, annual report to EPA/DEP
<ul style="list-style-type: none"> Develop and implement Chemical Hygiene Plan 	<ul style="list-style-type: none"> Compliance Community Health and Safety 	<ul style="list-style-type: none"> Identify departments affected Gather existing documentation Draft plan according to ISO requirements Meet with individual departments and define responsibilities – Review plan Incorporate changes, finalize plan and train 	<ul style="list-style-type: none"> This plan will be generated and reviewed under the direction of an ISO certified consultant and will be a base line for future EMS implementation. TetraTech, Inc, Bob Daniels, Chemistry, Biology, Psychology, V&P Arts, Photo Lab 	<ul style="list-style-type: none"> Up to and including the draft plan has already been completed Department meetings will take place during November 2005 Implementation is expected by January of 2006 continued refinement through May 2006.

<ul style="list-style-type: none"> • Increase awareness and focus on purchasing EPP 	<ul style="list-style-type: none"> • Natural Resource conservation • Recycling 	<ul style="list-style-type: none"> • Develop Procurement policy with focus on green products and approved vendor list • Communicate policy to campus community • Monitor purchases for EPP opportunities 	<ul style="list-style-type: none"> • Director of Procurement 	<ul style="list-style-type: none"> • This will be an ongoing and continuous process.
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